Quest for Exotic Rarities

By Dr. Ian Howat.

The rugged bush land of Jamaica is renowned for *Papilio homerus* F., that huge yellow and black creature, which ninety years ago used to be found along the backbone of the blue mountains. But how many are familiar with *Papilio marsellinus* Dbld. I suspect, very few, for this insect, although recorded for over one hundred years has rarely been caught in any numbers until recently, because it was never seen except for one or two days in the year, and then only in one place.

The opportunity to work at the University of the West Indies in Jamaica, also afforded the opportuntiy to search for these two Papilios.

Firstly, the famous *homerus* — featured on the Jamaican sixpenny stamp—was investigated by enquiring of the native residents if they had ever seen it near Bath—where ninety years ago it was common—well almost. No, no one had seen it for years. A similar reply came from those who went up into the mountains, and in fact, I found no local resident who had ever seen Jamaica's national buttefly. However a zoologist at the University had seen it one year ago—high up in the wildest mountain range in the island—about ten miles from Bath. There are only one or two trails leading up into these mountains, and these trails are precipitous—usually with a cliff on one side and a ravine on the other, the whole being overgrown with jungle—even vertical cliff faces. For the most part they allow only single file progress, which is impeded by crossing torrents, hacking away undergrowth, and climbing steeply for about four miles, to a pass lying at the crest of the range. Here it was that the only sighting of *homerus* was made for years, since its disappearance from the rest of the mountain range and the Cockpit Country, about twenty years ago. In fact many people believe it to have died out about ten years ago.

Armed with the necessary maps and equipment for ascending these trails, I went on weekend expeditions to this wild country many times, frequently to encounter torrential rain—these mountains have over 150 inches a year.

On one trip, I explored a small clearing for the first time, and found *homerus* flapping majestically in circles 15 feet above me, and there he remained for five circuits, quite unassailable, but none the less, a glorious sight. I encountered *homerus* on four occasions on subsequent trips; one of these encounters was at the end of a homerusless day, resting on the way down, in a glade. I watched one of the large tropical brimstones 100 yards away and it was there for three minutes before I realised that it was no brimstone, but *homerus*. As I ran to him, he flew to me, thus the only *homerus* of 1967 was caught. On another occasion, a friend of mine (that is he was), caught one ten yards ahead of me, and managed to let it get out. However, one homerus in the bag where none was expected was rather satisfying.

It is interesting to note that only one female was seen, and that the foodplant is not known with any certainty, and also that no records of larvae or pupae have come to light, although it used to be bred in Bath by a Chinese gentleman, ninety years ago, who sold them to passengers and crew of ships.

Papilio marsellinus presented greater difficulties still, for it is virtually unknown, even to zoologists. The five or six in the British Museum

collection are between 80 and 100 years old, and were probably the only ones in Europe until this year. Thus, probing had to start in reference libraries, which revealed that it was an attractive blue, white and red *Papilio*, only found in Jamaica, if one could find it at all. A local entomologist made a sighting of several of these coming over the beach from the direction of Venezuela four years ago, but no such creature has ever been seen in South America, although a similar *Papilio marcellus* Cramer is common there and in Cuba.

The first clue came after asking the natives all round the coasts and from one end of the island to the other if they had ever seen anything like the description and pictures of *marsellinus*. No one had ever seen such a creature, except near the same beach where they had been seen four years ago; several of the locals recognised it. Many days of questioning many locals began to reveal a pattern.

Firstly, the creature was unknown in any other area of the island (or of the world), and had only been seen in this one area of about two or three square miles.

Secondly, all the sightings, whichever year they were in, were all within the same two weeks of each year.

Thirdly, they were only seen for two to four days of each year.

Fourthly, some years they were not seen at all.

Thus, a connecting link had to be found to account for this quite extraordinary time sequence. Exhausting attempts were made to unearth some recurring factor at the specific time each year that sometimes would precipitate sightings, and sometimes would not. Tides, changes in seasonal influence from South America, or other Caribbean islands, and many other factors were excluded. However, it finally became apparent that it was the annual preceding heavy rains which was the link. Always the first sighting was ten to fifteen days after the rains had ceased, and if there were no rains that year, there were no sightings. If the rains were late in ending, *marsellinus* was apparently late in appearing. It seemed that these rains broke the diapause, allowing the insect to hatch out.

The next step was to explore the area fully for evidence of eaten food plant, larvae, pupae, etc. The area is about one or two miles from the coast, and very thick, high bush, almost impossible to work through. However, nothing of significance was found, so the final step was to monitor the area about ten days after the rains had ceased. This year, not only were the rains very late, but heavy showers continued for many days afterwards. Trips almost every day to the area were disappointing. During extensive exploration of the area after heavy overnight rain, one *marsellinus* was seen and caught. Next day, again after heavy rain, nine more were caught, and two days later, the insect was not seen again.

It is interesting to note that these creatures fly exceedingly fast, and only one was taken on the wing, and that by accident; furthermore, they were observed to fly through this difficult country down to the beach, there to take on moisture from seaweed and then fly back again to their locality. All specimens were absolutely fresh indicating very fresh emergence. Although the area was explored for a long time during and after their disappearance, no evidence of egg laying or of larvae was found.

At first it was thought that only males had been caught, but later, dissection revealed females in the ratio of 1 to 3.

Questions still to be answered about this extremely rare and attractive creature are: on what does it feed? why does it appear for such a short time? and why in such a restricted locality?

This year, time was not available to continue the investigations, for shortly after that, I went to South America, where, on one expedition to the Amazon jungle, several exotic rarities fell victim—but that is another story.

Notes on some South African Bees and Wasps

By J. S. Taylor

Since the publication of previous notes on the biology and behaviour of certain species of solitary bees at artificial nest sites at Port Elizabeth and Wilderness, C.P. (Taylor 1962, 1962, 1963, 1965), further work has been carried out at Hilton, Natal, and the following notes deal with the results obtained there. As far as the species of bee are concerned, the present notes are supplementary to those already published on the same species in the Eastern Cape Province. The nests used were exactly the same, i.e., blocks of wood containing three-inch lengths of plastic tubing, one quarter-of-an-inch in diameter.

While the three species of bee which occurred commonly at both Port Elizabeth and Wildnerness were also found at Hilton, they were noted there much more sparingly and none could be described as common. Nesting operations were much more sporadic. This is thought to be at least partly due to the climatic conditions obtaining at Hilton. The altitude of the latter is some 3700 feet and it is situated in the mist belt. Damp mists occur frequently during the spring and summer months, while it is not unusual for the sun to be totally obscured by low cloud for several days at a time. As the bees are active only in sunny and warm weather, there were many days during which they remained inactive and did not venture outside their nests or tubes. Nest construction therefore frequently occupied lengthy periods. while many attempts were abortive or abandoned. This was especially the case in the summer of 1966/67 when the weather conditions were particularly wet and cool.

During the occasional warm spells the contrast was most marked; the rate of nest construction being accelerated considerably, and was more on a par with that noted in warmer parts of the country. It is also thought that the protracted nesting operations gave parasites a better opportunity to do their work; the percentage of parasitism being certainly higher at Hilton than in the Eastern Cape.

The three species of bee occurring at Hilton and the two Eastern Cape localities are dealt with below.

Heriades freygessneri Schletterer. (Megachilidae).

Very few nesting attempts by this species were observed at Hilton and of these only one such was successful. From a nest of two cells, sealed on 28th February 1965, an adult female bee emerged on 5th November of the same year, the period spent in the development stages therefore being 250 days, which is normal. From a nest of four cells, abandoned while under construction about 18th November 1966, an individual of *Anthrax*